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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,921	03/20/2001	Giao Vinh Nguyen	0055-IS	9141

7590 05/20/2004

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EXAMINER

PRICE, ELVIS O

ART UNIT	PAPER NUMBER
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1621

DATE MAILED: 05/20/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/812,921

Applicant(s)

NGUYEN ET AL.

Examiner

Elvis O. Price

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7, 8.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-12 are pending in the application.

Information Disclosure Statement

The information disclosure statement, filed 1/21/03, complies with the provisions of 37 CFR 1.97, 1.98 and MPEP02 § 609. It has been placed in the application file, and the information referred to therein has been considered as to the merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams et al. {US Pat. 2,585,983}.

Applicants claim, in brief, a process for mono-alkylating at least one monocyclic aromatic hydrocarbon comprising reacting the monocyclic aromatic hydrocarbon with at

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least one alpha-olefin having from 4 to 20 carbon atoms in the presence of an anhydrous alkane sulfonic acid at a temperature below about 280 F.

Adams et al. teach a process for alkylating aromatic hydrocarbons such as benzene, toluene, xylenes, etc., comprising reacting the aromatic hydrocarbon with a mono-olefin fraction (synthon olefins), having between 7 to 15 carbon atoms, in the presence of anhydrous alkanesulfonic acids (producing the light, heart and heavy alkymers) at preferable temperatures of from 240 to 260 F (see Col. 3, lines 23-61; Col. 4, lines 33-55; Col. 9, lines 13-22; Col. 13, lines 18-24 and Table 2). The difference between the presently claimed invention and what the Adams et al. reference teaches is that the Adams et al. reference is silent with regard to the mono-olefin fraction containing at least one alpha-olefin. However, it would not be unreasonable for one having ordinary skill in the art to envision that the synthon olefins used by Adams et al., in preparing alkylated aromatic hydrocarbons, contains at least one alpha-olefin when considering that the Adams et al. alkylated aromatic hydrocarbons yield high quality detergents upon sulfonation and neutralization (see Col. 4, lines 44-66).


The presently claimed invention would have been *prima facie* obvious to one having ordinary skill in the art, in view of the teachings of the Adams et al. reference, because Adams et al. teach a process for alkylating aromatic hydrocarbons such as benzene, toluene, xylenes, etc., comprising reacting the aromatic hydrocarbon with a mono-olefin fraction (synthon olefins), having between 7 to 15 carbon atoms, in the presence of anhydrous alkanesulfonic acids (producing the light, heart and heavy alkymers) at preferable temperatures of from 240 to 260 F.

One having ordinary skill in the art, desiring to prepare high quality detergents from mono-alkylated aromatic hydrocarbons (light alkylmers), would have been motivated to react an olefin mixture (such as Synthon mono-olefins) containing at least one alpha-olefin, having from 4-20 carbon atoms, with aromatic hydrocarbons such as benzene, xylenes, toluene, etc., before sulfonation of the mono-alkylated aromatic hydrocarbon. Therefore the presently claimed invention would have been obvious to one having ordinary skill in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elvis O. Price whose telephone number is 571 272-0644. The examiner can normally be reached on 8:30 am to 5:00 pm; Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on 571 272-0646. The fax phone numbers for the organization where this application or proceeding is assigned is 703 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-1235.



Elvis O. Price

May 14, 2004